For each case, the spill site and wind direction were chosen so that the spilled oil remained in the habitat-province designated for that case as much as possible. In this way the resulting damages are for the volume of oil spilled in that type of habitat and province. Spill locations (latitude and longitude) and wind directions used are in Exhibit A-3 (Appendix A). In some cases, the grid in the area of the spill was set up as a hypothetical location, with the desired habitat type assigned to all grid cells in the path of the spill. These cases are noted in Exhibit A-3 with an asterisk. Exhibit A-4 describes modifications needed to edit existing (default) habitat grids in Version 2.4 of the NRDAM/CME. These modifications can be made to the NRDAM/CME, Version 2.4, using the habitat editing tool (see Volume II of the documentation for Version 2.4). Various environmental inputs, discussed below, are specified by the user when a case is run.

International Station Meteorological Climate Summary (ISMCS) data set, available from the National Climatic Data Center (NCDC), was used to characterize winds for cases E01-E34, which represent the estuarine and nearshore subtidal and intertidal environments. The ISMCS data set is contained on CD-ROM. Along with summaries of several other meteorological parameters for over 5500 locations worldwide, the ISMCS data set contains monthly and annual wind speed and direction probability distributions for all coastal observation sites in the vicinity of each province. For the purposes of the compensation formula, annual speed and direction wind statistics were used. A mean wind vector for each station was obtained by calculating probability-weighted vectors for each speed-direction bin in the matrix, summing the east and north vector components, then dividing by the number of bins to determine the mean wind vector. A summary of the reference station and characteristic mean wind for each estuarine and nearshore case is presented in Exhibit B-1 in Appendix B.

Statistical summaries of data obtained from offshore meteorological buoys (Gilhousen et al., 1990) were used to characterize the mean wind for the offshore provinces. At these locations, the characteristic wind was chosen by selecting the most probable direction bin and the most probable speed bin from the annual speed-direction summary for the buoy selected as being most representative of the area. The reference stations, their locations, and characteristic mean winds for each offshore subtidal province are presented in Exhibit B-2 of Appendix B.

In most locations where spills occur, background (non-tidal) currents are relatively low. Thus, zero background current was assumed in all model runs.

Tidal currents are most important nearshore. Thus, in some nearshore and intertidal cases typical (mean based on NOAA's published tide tables ) tidal currents were assumed, with the direction of the flood assumed up-estuary, upriver or towards shore (Exhibit A-5, Appendix A). Tidal period was 24.8 hours (one per day) in the Gulf of Mexico and 12.4 hours (2 per day) elsewhere.

Tidal ranges used (Exhibit A-5) were taken from CERC (1984) except those for Alaska, which came from Gundlach et al. (1986). Each spill event is assumed to start at high tide.

Monthly mean air and surface water temperatures, and annual mean suspended sediment concentrations and settling velocities, were assumed in the model runs. These are provided as defaults in the NRDAM/CME, Version 2.4. Values used are in Volume III of the NRDAM/CME (Version 2.4) documentation. All of these environmental parameters are specific to biological province (Exhibit 2.2).

Ice data for the Bering Sea, Norton Sound, and the Beaufort Sea (cases M10, M11, M12) were compiled as mean percent ice coverage by month for each of the three provinces from the Alaska Marine Ice Atlas published by University of Alaska (LaBelle et al., 1983). Documentation for this is available in NRDAM/CME, Version 2.4. Default ice data from Version 2.4 should be used for these compensation formula runs.